PREPARATION AND CHARACTERIZATION OF NEW TRIFLUOROMETHYL-MERCAPTOAMINOBORANES

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Reactions of BX₃ (X = Cl, Br, SCF₃) with substituted trifluoromethylmercaptoamines such as [(CF₃S)₂N]₂Hg, Me₃Sn-N(SCF₃)₂, Me₃Si-N(SCF₃)₂, Me₃Si-N(SCF₃)H and (Me₃Si)₂N-SCF₃ have been investigated. Using [(CF₃S)₂N]₂Hg and Me₃Sn-N(SCF₃)₂ in metathetical reactions with BX₃ the new aminoboranes X_nB[N(SCF₃)₂]_{3-n} (n = 0, 1) can be synthetized. The best yields are obtained from BX₃ and Hg[N(SCF₃)₂]₂. Trimethylsilyl-trifluoromethylmercaptoamine, Me₃Si-NSCF₃(H), reacts with BCl₃ to form (CF₃SNH)_nBCl_{3-n}.

The reactivity of Si-N, S-N, Hg-N, Sn-N and H-N-bonds towards BX₃ will be discussed. Spectroscopical data (19 F-, 11 B-, 14 / 15 N-, 29 Si-, 119 Sn-, 1H-NMR, MS, IR, Ra) for the new compounds B[N(SCF₃)₂]₃, ClB[N(SCF₃)₂]₂, BrB[N(SCF₃)₂]₂, H-N(SCF₃)SiMe₃ and Me₃Sn-N(SCF₃)₂ will be presented.